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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/587,220	02/06/2008	Kouji Tamori	294138US0PCT	8236

22850 7590 12/22/2009

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EXAMINER	
PAK, HANNAH J	

ART UNIT	PAPER NUMBER
1796	

NOTIFICATION DATE	DELIVERY MODE
12/22/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/587,220	TAMORI ET AL.	
	Examiner	Art Unit	
	Hannah Pak	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 August 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *13-23* is/are pending in the application.

4a) Of the above claim(s) *22 and 23* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *13-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *08/22/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, claims 13-21 in the reply filed on 9/11/2009 is acknowledged. Applicants traversed the Restriction Requirement on the grounds that it would not be a serious burden to search and examine all of the claims (see Page 2 of the Applicants' Remarks). On the face of it, it is noted that applicant's phraseology of "any number of" inventions is prima facie evidence of innumerable inventions thus reinforcing examiner's point that there would be a serious search burden. In any event, it is noted that a serious burden arises because the inventions require a different field of search. For instance, Group I drawn to a liquid composition is classified in class 523, subclass 218 while Group II drawn to an optical article is classified in class 428, subclass 29. Accordingly, the requirement is still deemed proper and is therefore made FINAL.

2. Claims 22-23 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 9/11/2009.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 13-15 and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawashima et al. (US 4,972,000) in view of Smrt et al. (US 5,196,459).

Kawashima et al. disclose a coating composition useful for making films containing 1) 1-50 weight percent of crosslinked hollow polymer particles having a particle size of 0.15-20 micrometers and a proportion of toluene-insoluble of 20-90 weight percent (Col. 4, line 65-Col. 5, line 10, Col. 19, lines 55-65, and see for example, abstract) and 2) 3-30 parts by weight of a binder or a polymeric material, corresponding to the claimed thermoplastic resin (Col. 21, lines 14-35). Kawashima et al. also disclose the hollow polymer particles can be prepared by subjecting a mixture of not more than 5 parts by weight of hollow pre-polymer particles and another monomer selected from the monomers composed of 0.5-100 percent of weight of unsaturated mono or dicarboxylic acids to polymerization in an aqueous medium in combination with an emulsifier and/or a dispersing agent (Col. 12, lines 30-65). The pre-polymer particles are prepared by polymerizing a monomeric mixture containing 2-60% by weight of a crosslinkable monomer and 0-70% of weight of unsaturated carboxylic acid (Col. 7, lines 55-67 and Col. 8 lines 25-65). The hollow polymer particles has at least two polymer layers, inside and outside layers (Col. 16, lines 35-45 and Col. 17, lines 40-45), which corresponds to the claimed core-shell layer. Kawashima et al. further disclose that in the emulsion polymerization, the pH of the polymerization system affects the polymerization and dispersion stability and the particle size distribution and thus the pH is adjusted to a pH

of less than 7 (Col. 16, lines 20-30 and Col. 23, lines 24-30), which touches the claimed pH range of more than 7, see MPEP § 2144.05. Moreover, Kawashima et al. disclose the aqueous dispersion of the hollow polymer particles is dried (Col. 20, lines 20-30).

Kawashima et al. do not mention the addition of an organic solvent and its specific amount.

However, Smrt et al. disclose the addition of 1-30 weight percent of a water-soluble organic solvent in a water-based coating composition useful for forming films (Col. 6, lines 15-30).

Given the above teachings, it would have been obvious to one of ordinary skill in the art to add the appropriate amount of organic solvent taught by Smrt et al. in the coating or film-forming composition of Kawashima et al. to obtain desired properties.

Regarding the amounts of the components 1) and 2) mentioned above, these amounts taught by Kawashima et al. overlap with those recited. Thus, the subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made, since it has been held that choosing the over lapping portion of the ranges taught by Kawashima et al. and the ranges claimed by the applicant, has been held to be a *prima facie* case of obviousness, *see MPEP § 2144.05*.

As to the dispersing agent recited in claim 1, Kawashima et al. mention employing an effective amount of dispersing agents in the composition to obtain dispersion stability (Col. 23, lines 14-15). Since the dispersing agent affects the composition, the dispersing agent is the results-effective variable. Thus, the determination of the optimum amount of dispersion agent in the composition to obtain a

desired dispersion stability is well within the skill of one ordinary in the art, *see MPEP § 2144.05, IIB*.

As to claim 18, the desired haze and thickness property are other advantages, which would flow naturally from following the suggestions of Kawashima et al. and Smrt et al., cannot be the basis for patentability when the differences would otherwise be obvious, *see MPEP § 2145, II*

4. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawashima et al. (US 4,972,000) in view of Smrt et al. (US 5,196,459) as applied to claims 13-15 and 18-21 above, and further in view of Ishikawa et al. (Machine Translation of JP 2002-088104).

The disclosures with respect to Kawashima et al. and Smrt et al. in paragraph 3 are incorporated here by reference. Although they mention employing surface active agents and dispersing agents (Col. 23, lines 14-15), they do not mention employing the specific dispersing agent recited in claim 16 in their composition.

However, Ishikawa et al. teach a surface active agent having the formula CH_2=CH-$(CH_2)_p$-O-$(AO)_m$-(EO)-H wherein CH_2=CH corresponds to the claimed T^1 when T^1 is an alkenyl group of 2-18 carbon atoms, p is 0, AO corresponds to the claimed RO when RO is an oxyalkylene group of 3-18 carbon atoms, EO corresponds to the claimed EO when EO is an oxyethylene group, H corresponds to the claimed T^2 when T^2 is hydrogen atom, n corresponds to the claimed m when m is 1, and m corresponds to the claimed n when n is 1-50 (Paragraphs 6 and 11). The surface active agent taught by

Ishikawa et al. corresponds to the claimed dispersing agent. Ishikawa et al. further teach that the surface active agent provides excellent polymer emulsion, polymerization stability and mechanical stability (Paragraph 35).

Given the above teaching, it would have been obvious to one of ordinary skill in the art to employ the dispersing agent taught by Ishikawa et al. as the dispersing agents in the composition taught by Kawashima et al. to obtain desired properties.

5. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawashima et al. (US 4,972,000) in view of Smrt et al. (US 5,196,459) as applied to claims 13-15 and 18-21 above, and further in view of a non-patent literature (Hexyl Cellosolve Solvent and Hexyl Carbitol Solvent. DOW. Pages 1-4, 2001).

The disclosures with respect to Kawashima et al. and Smrt et al. in paragraph 3 are incorporated here by reference. They do not mention the addition of a specific organic solvent.

However, the non-patent literature teaches that the glycol ether solvents with water solubility characteristics are commercially available (Page 1). The non-patent literature further teaches that the commercially available glycol ether solvent are excellent coalescing solvents or filming aids with waterborne emulsion or dispersion coatings (Page 2).

Given the above teaching, it would have been obvious to one of ordinary skill in the art to add the specific organic solvent, e.g. glycol ether, taught by the non-patent

literature in the coating composition taught by Kawashima et al. to obtain desired properties.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hannah Pak whose telephone number is (571) 270-5456. The examiner can normally be reached on Monday - alternating Fridays (7:30 am - 5 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hannah Pak

Examiner
Art Unit 1796

/HP/

/Vasu Jagannathan/
Supervisory Patent Examiner, Art Unit 1796